National Biological Information Infrastructure (NBII):

Collaborative Opportunities in Ecoinformatics

USGS

June 3rd , 2004

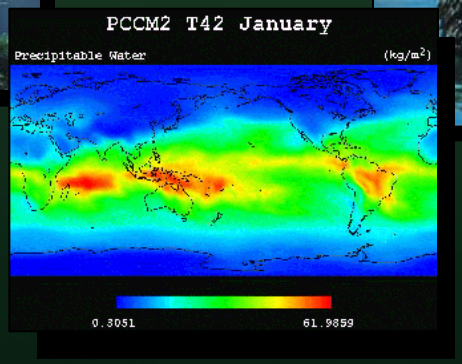
Topics…

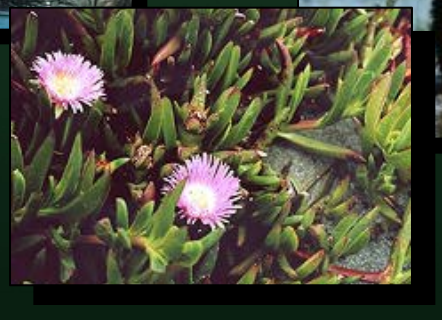
- Background on NBII Program
- USGS NBII/EPA Collaborations
- NBII Tools & Services
- Questions & Answers

National Biological Information Infrastructure

NBII: What is it?

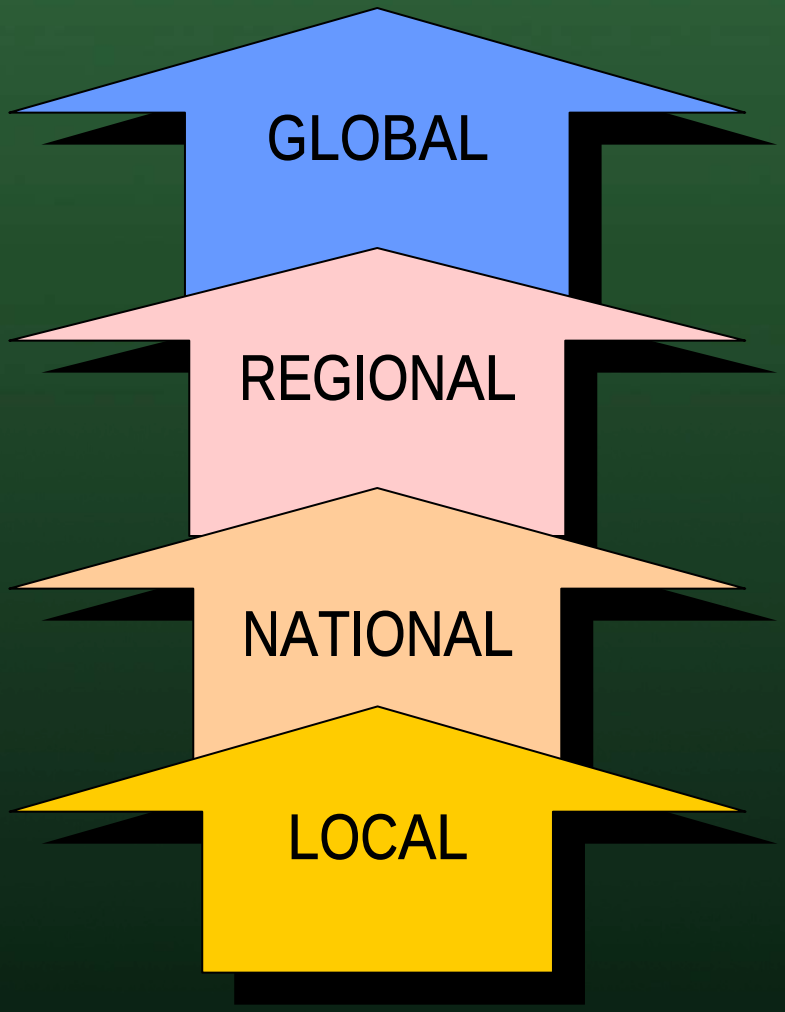
- A broad, collaborative program to provide access to data and information on our Nation's biological resources.





National Biological Information Infrastructure

NBII & International Activities relationships



CBD Clearinghouse Mechanism (CHM)

Global Biodiversity Information Facility (GBIF)

Global Earth Observation (GEO)

Inter-American Biodiversity Information Network (IABIN)

North American Biodiversity Information Network (NABIN)

NBII (US) CBIN (Canada) REMIB (Mexico) ERIN (Australia)

GAP Biodiversity Information

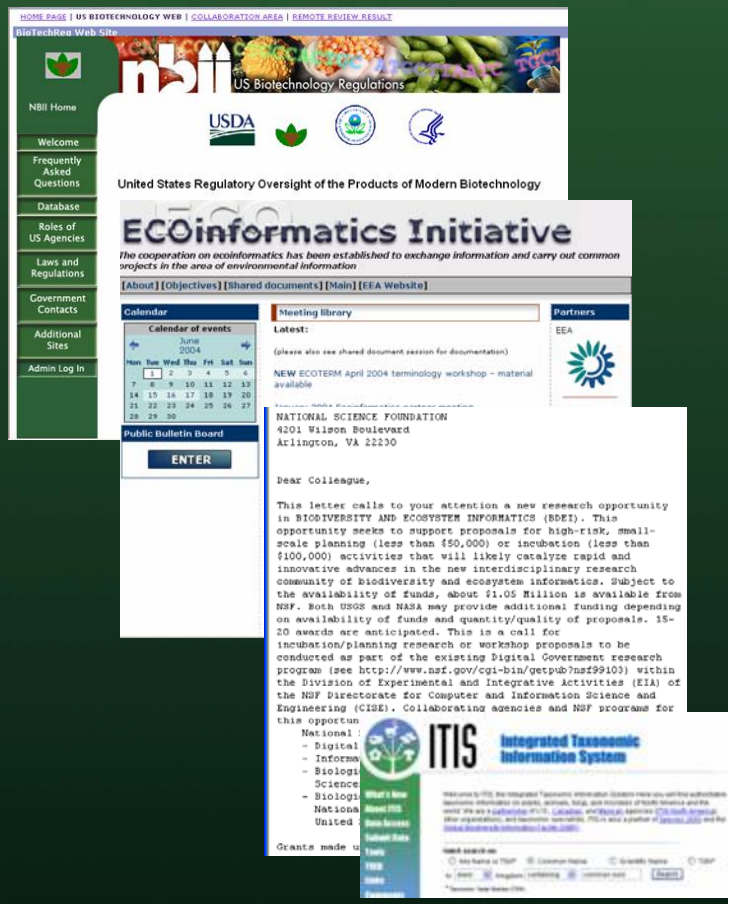
State Natural Heritage Programs

County Information

National Biological Information Infrastructure

Current USGS NBII/EPA Collaborative efforts

- Ecoinformatics Working Group
- Metadata standards promotion, propagation
- Integrated Taxonomic Information System (ITIS)
- Interagency Biotechnology efforts
- BioEco Interagency Group
- EMAP Partnership meeting
- GEO
- EPA Representative on NBII Science Advisory Committee
- Biodiversity & Ecosystems Grants & Workshop



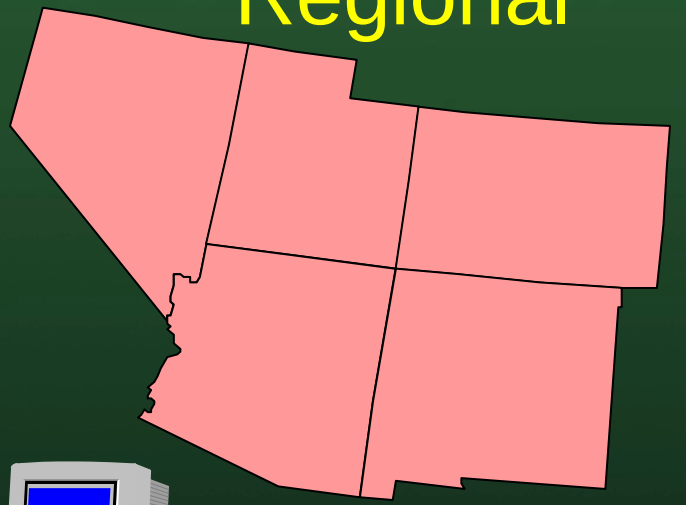
NATIONAL
LOCAL

National Biological Information Infrastructure

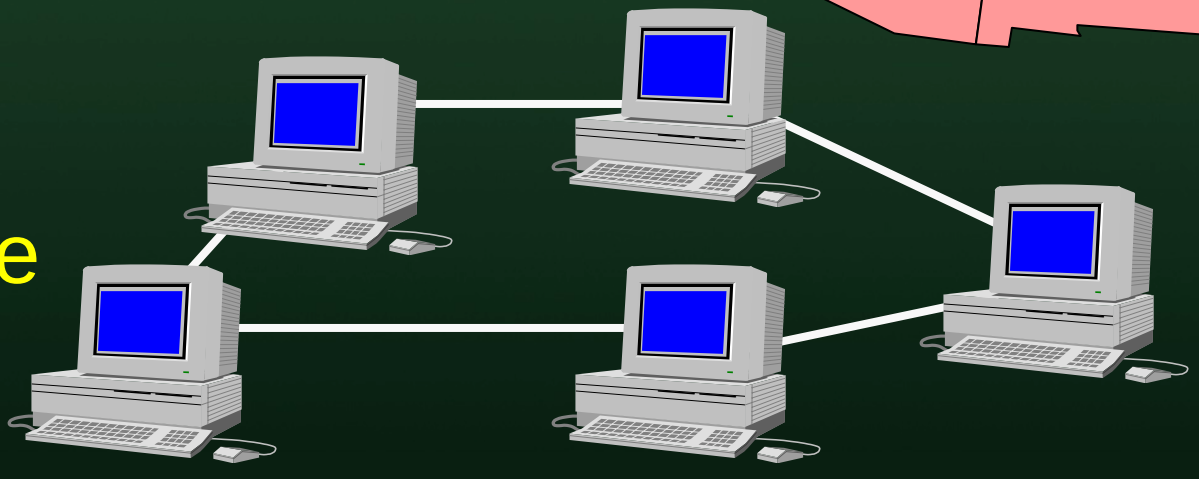
NBII Nodes: Producing products, standards, tools, and services for biodiversity data management & delivery.

* Thematic

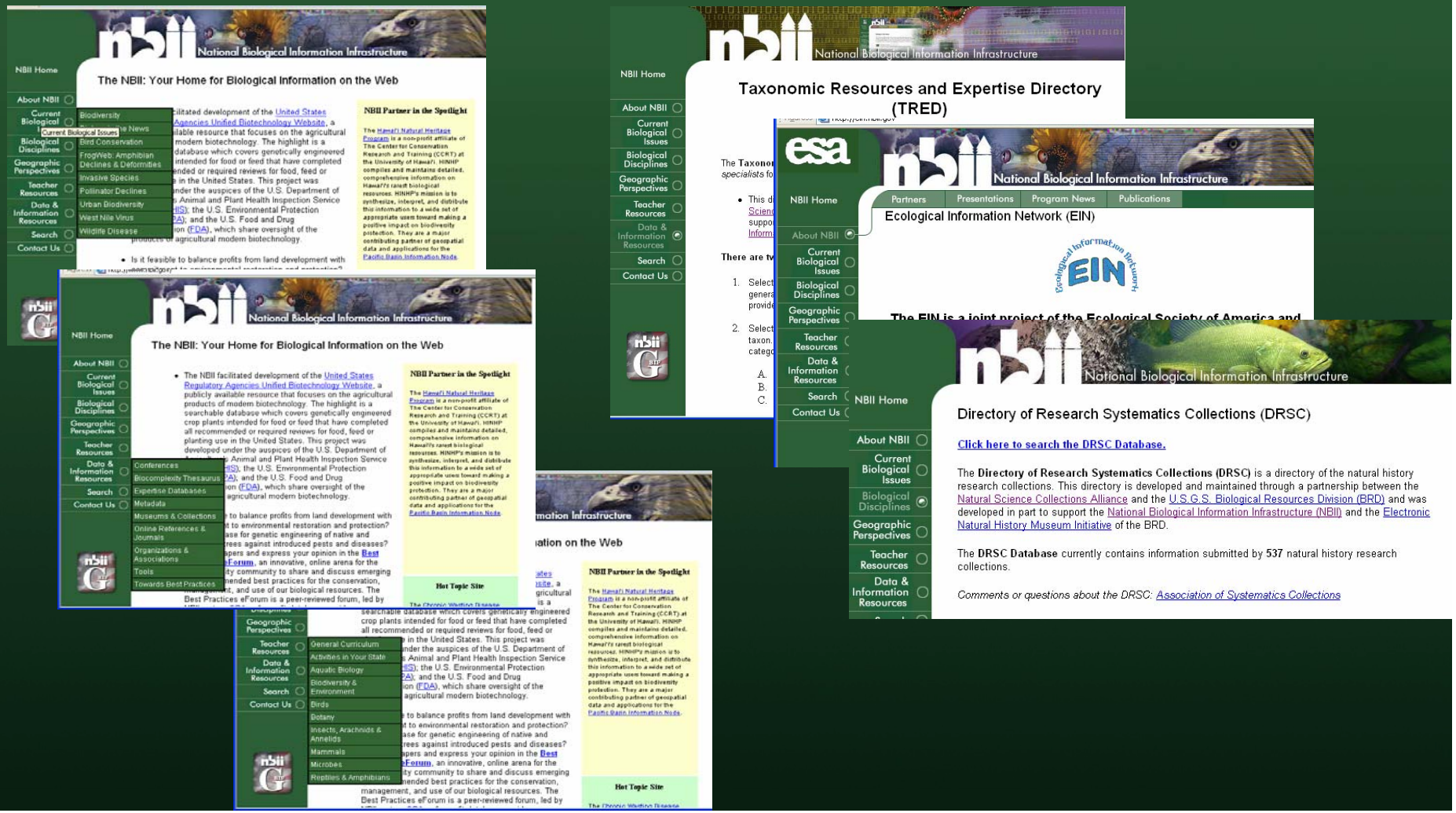
* Regional



* Infrastructure



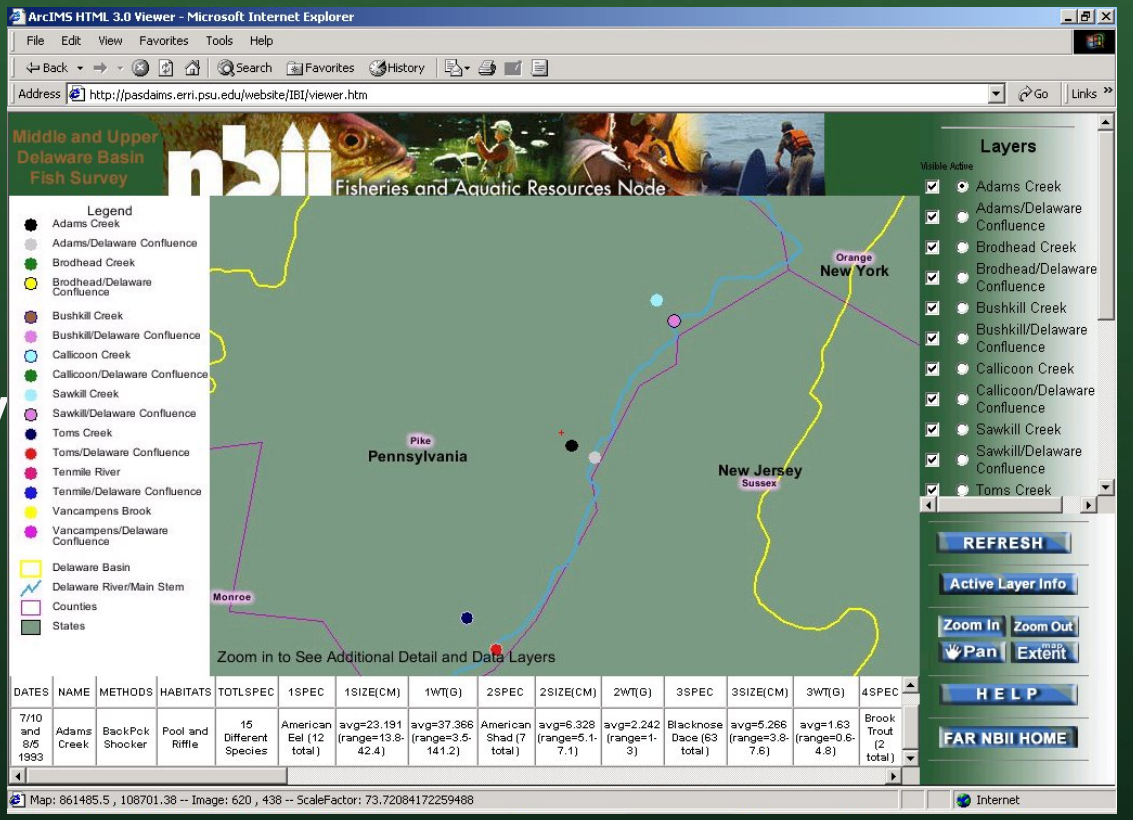
NBII Public Site – http://www.nbii.gov



National Biological Information Infrastructure

Sample NBII Node Products - Fisheries

- Fishing Resources By State
- Fishing Conditions By State
- National Fish Strain Registry
- PA Fisheries Explorer
- Delaware River Mapping



DATES	NAME	METHODS	HABITATS	TOTLSPEC	1SPEC	1SIZE(CM)	1WT(G)	2SPEC	2SIZE(CM)	2WT(G)	3SPEC	3SIZE(CM)	3WT(G)	4SPEC
7/10 and 8/5 1993	Adams Creek	BackPck Shocker	Pool and Riffle	15 Different Species	American Eel (12 total)	avg=23.191 (range=13.8-42.4)	avg=37.366 (range=3.5-141.2)	American Shad (7 total)	avg=6.328 (range=5.1-7.1)	avg=2.242 (range=1-3)	Blacknose Dace (63 total)	avg=5.266 (range=3.8-7.6)	avg=1.63 (range=0.6-4.8)	Brook Trout (2 total)

National Biological Information Infrastructure

Bird Conservation Node

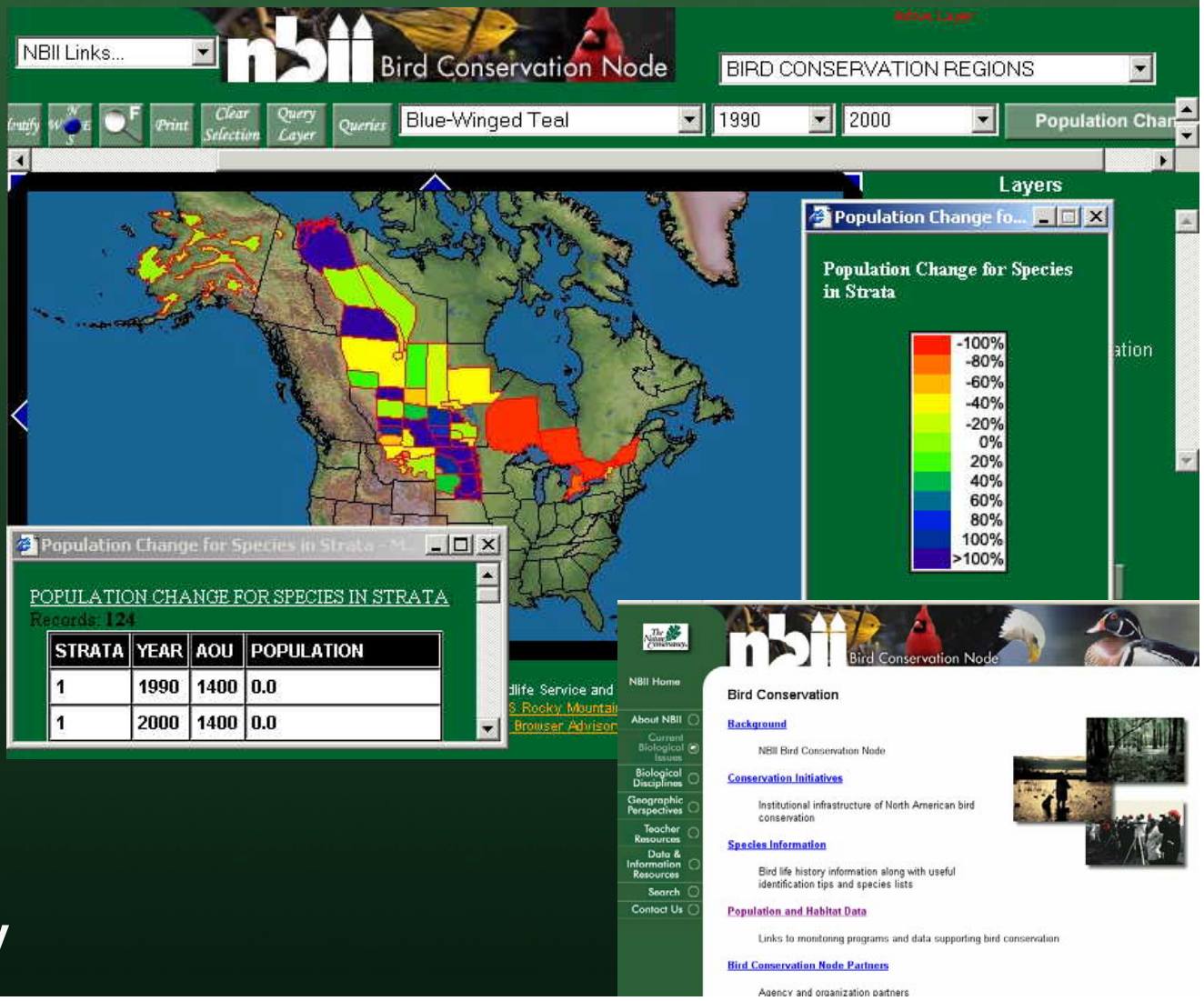
http://birdcon.nbii.gov

Key Partners:

- USGS
- Partners in flight
- FWS
- ABI
- State Agencies
- Mexico

Topics:

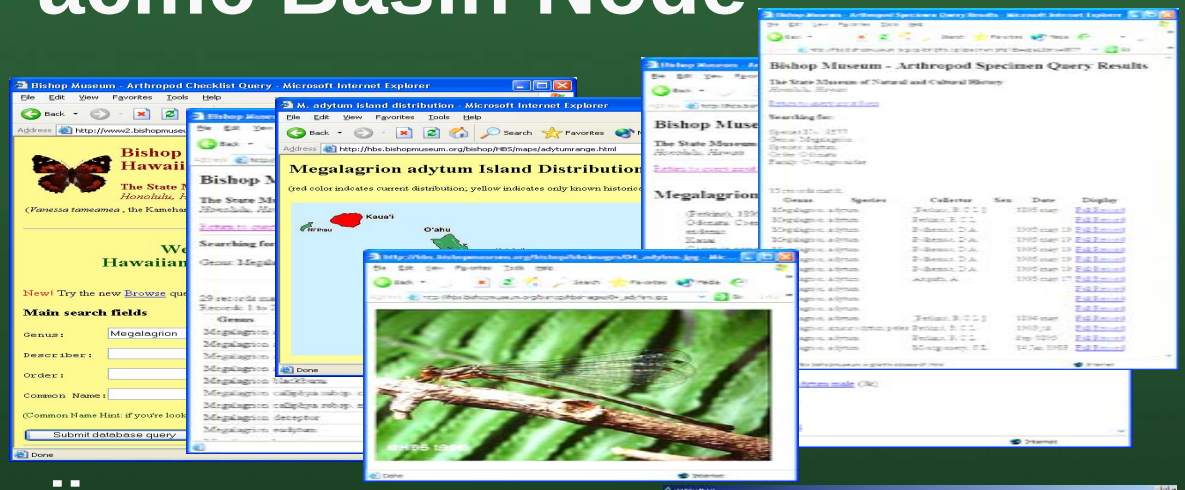
- Migratory Birds:
  - Population data
  - Habitat data
  - Data integration
  - WEB based query



National Biological Information Infrastructure

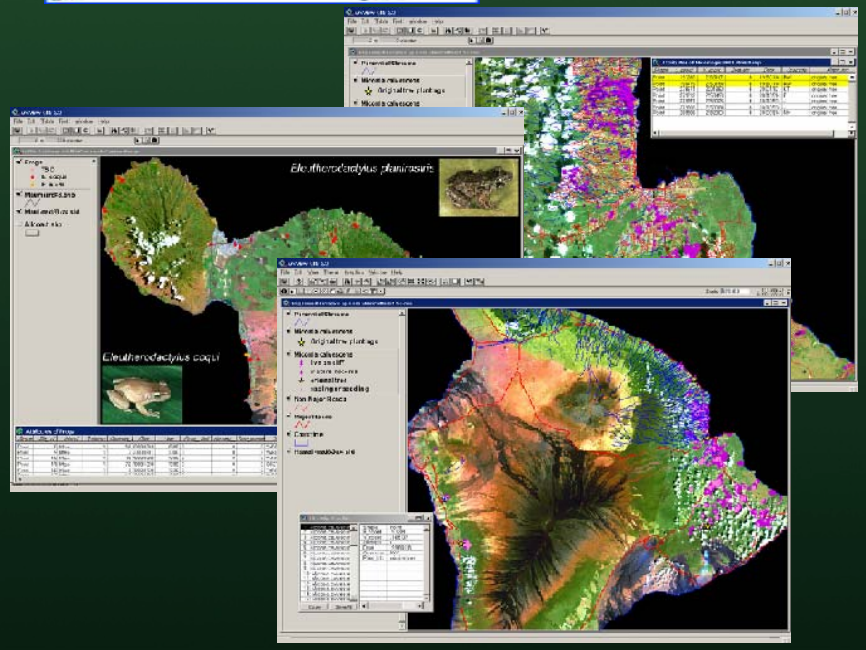
Pacific Basin Node

CONTENT IS CRITICAL



What it is:

- ITIS Pacific
- HBS/PBS
- All Species Hawaii



Where it is:

- Metadata training
- Data collection protocols
- Database Structure

National Biological Information Infrastructure

NBII Metadata Activities

Metadata Clearinghouse

Search Summary

Return to Search

For successful searches click on the database name to get the corresponding results

Elapsed Search Time (MM:SS): 0:07

Database	Status	Count
NBII Metadata Clearinghouse Principal Node		
EMAN Data Set Library (Environment Canada S		
Forest Aquatic and Rangeland Ecosystems in t		
National Gap Analysis Program Metadata Node		
New Mexico Resource Geographic Information S		
New Mexico USGS Partnership Clearinghouse		
ONRC Clearinghouse for the Olympic Peninsula		
Southwest Region Road Map of Natural Resourc		
Washington State Geospatial Clearinghouse No		

Metadata Clearinghouse

Current Database: NBII Metadata Clearinghouse Principal Node

Viewing documents 1-2 out of 2
Results Page: Prev 1 Next

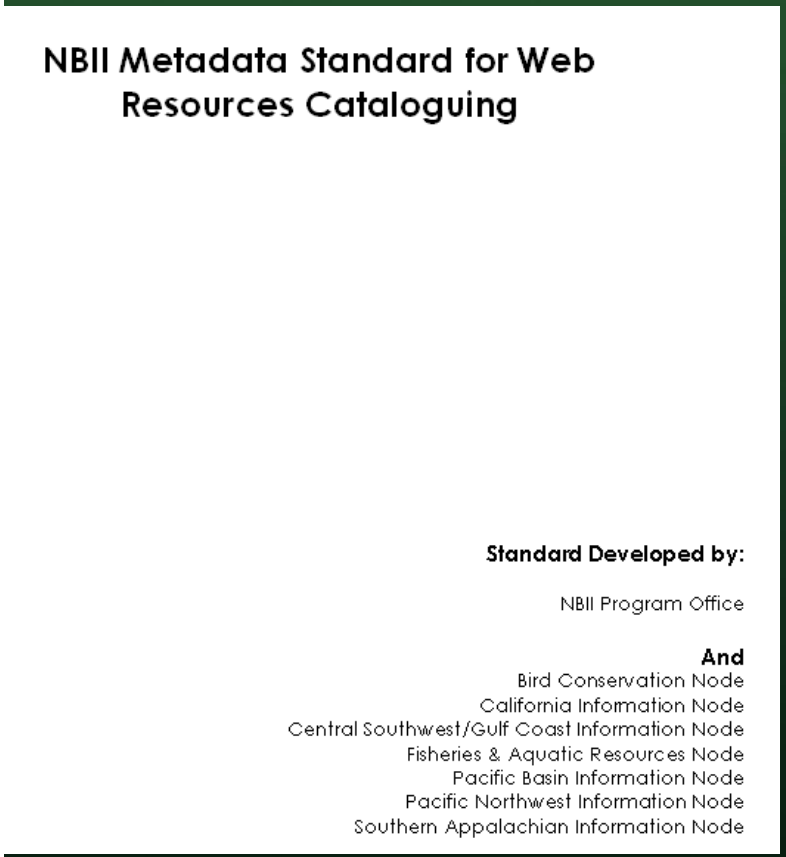
QUERY:
Full Text = Department of Defense

1. **Data Set Title:** Nonindigenous Plants' Database: Army Lands Inventory
   Full Metadata Report...
   Abstract: The Army Enviromental Center (AEC) gave the Waterways Experiment Station (WES) the task of developing a database covering noxious and nuisance plants because there is no central database on nonindigenous plant species on Army installations. There are a few databases that exist that identify the composition of vegetation at some military installations; however, these systems were developed to account for threatened and endangered species or for management of lands that have been disturbed during training operations.

2. **Data Set Title:** Development of an Inventory, Monitoring, and Research Database for Reptiles
   Full Metadata Report...
   Abstract: In support of the conservation goals of Partners in Amphibian and Reptile Conservation (PARC), a database of amphibian and reptile research efforts on Department of the Interior (DOI) lands is being developed. The database will consolidate information from inventory and monitoring projects from across the United States.

National Biological Information Infrastructure

Standard for Web Resources Cataloguing


NBII Metadata Standard for Web Resources Cataloguing

Standard Developed by:

NBII Program Office

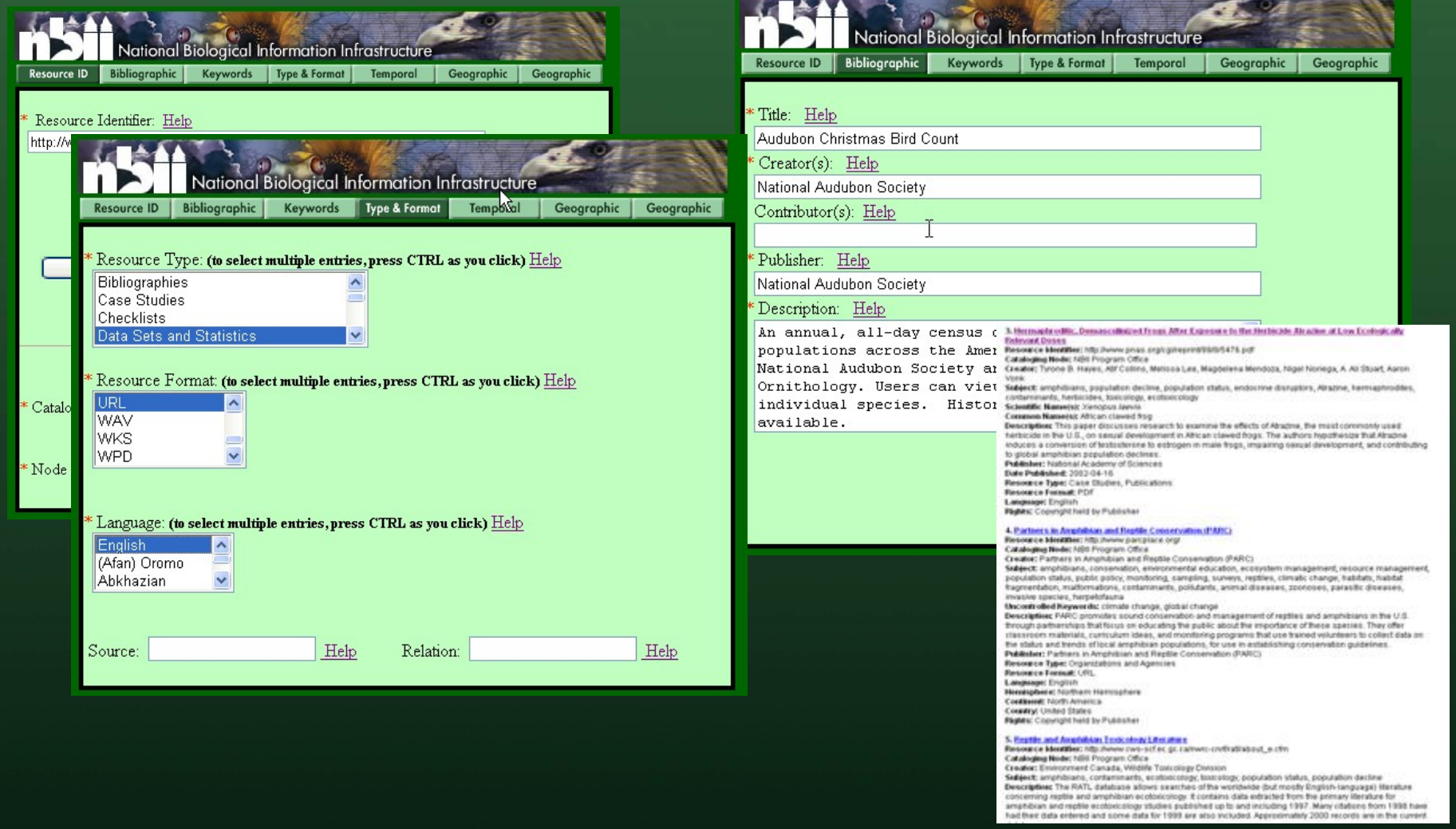
And

Bird Conservation Node
California Information Node
Central Southwest/Gulf Coast Information Node
Fisheries & Aquatic Resources Node
Pacific Basin Information Node
Pacific Northwest Information Node
Southern Appalachian Information Node

- Based upon the Dublin Core Metadata Initiative, with modifications for the biological community
- NBII-wide standard, developed by a joint working group
- Documentation available to all NBII Nodes
- Create once, use many
- Improves Interoperability

National Biological Information Infrastructure

NBII Web Resources Tool



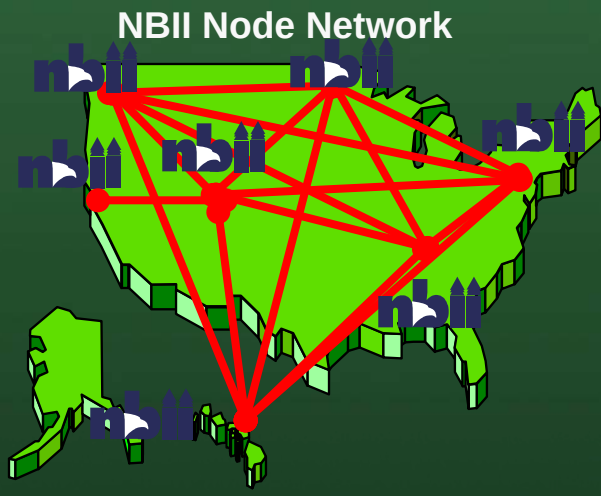
National Biological Information Infrastructure

NBII Biocomplexity Thesaurus

- Needed a common language to characterize these resources
- Partnered with CSA, a leading bibliographic database provider
- Integrated existing thesauri
- Searchable
- “web-service” for usage by community

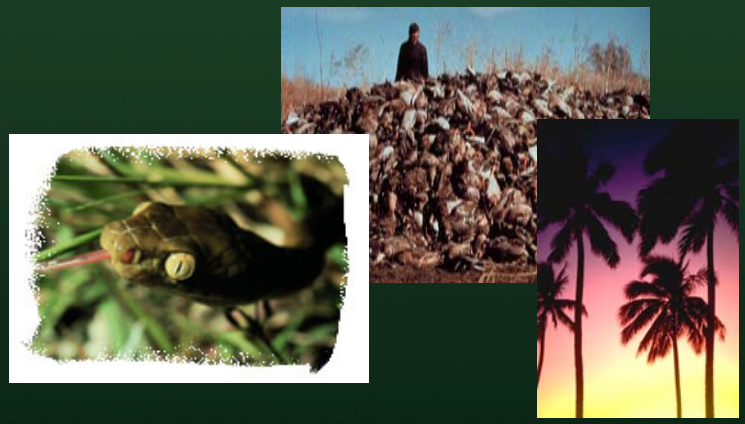
National Biological Information Infrastructure

My.nbii.gov vision…



✓Support Remote offices & NBII Network:
- Network Operations
- Partner "Intranet"
- Information Sharing/Collaboration
- Leveraging of resources
- Private information

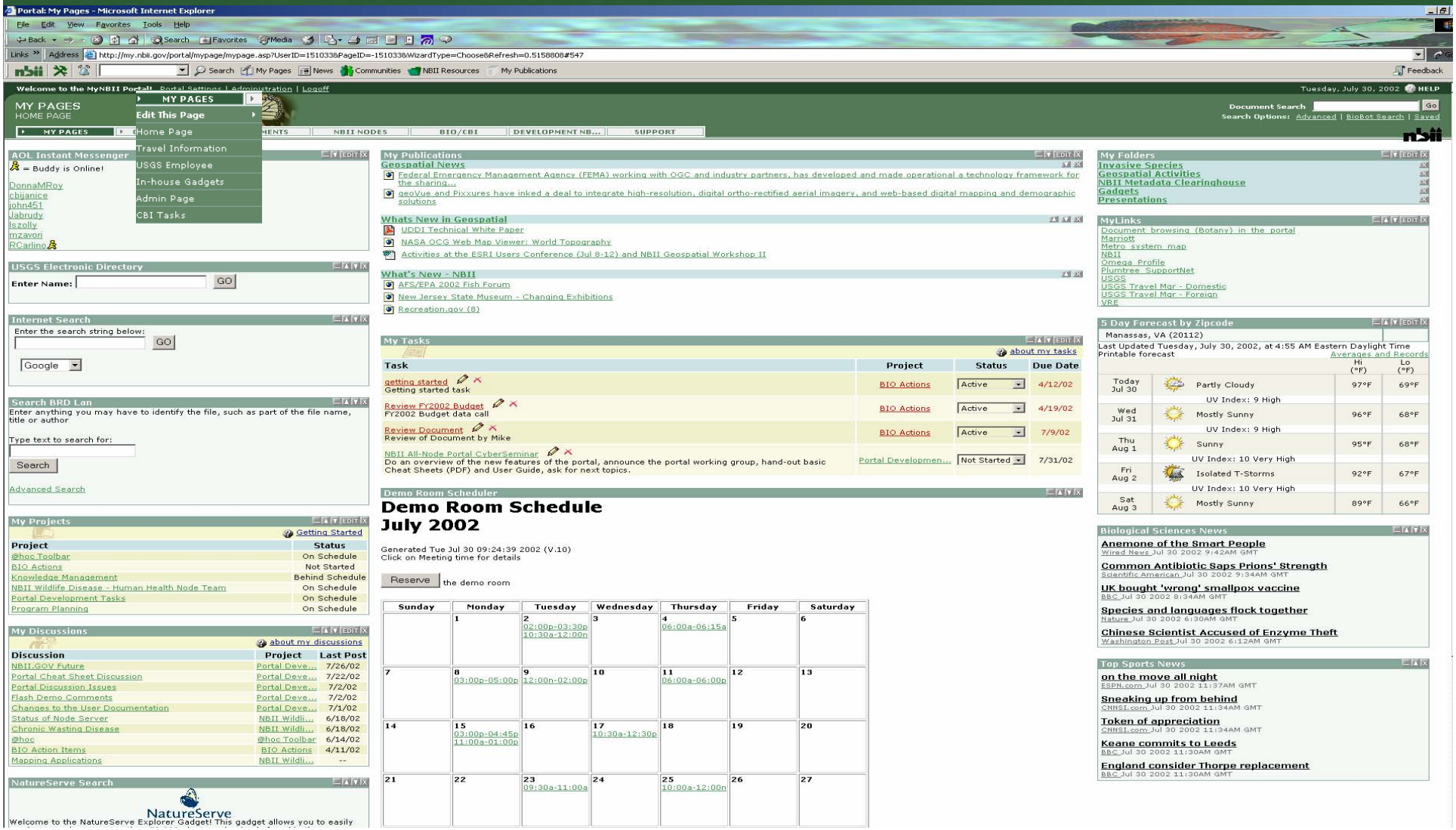
✓Enable Research:
- Scientific Collaboration
- Integration of data
- Peer review
- Data analysis



✓Public delivery of information:

National Biological Information Infrastructure

Typical My.nbii.gov - My Page



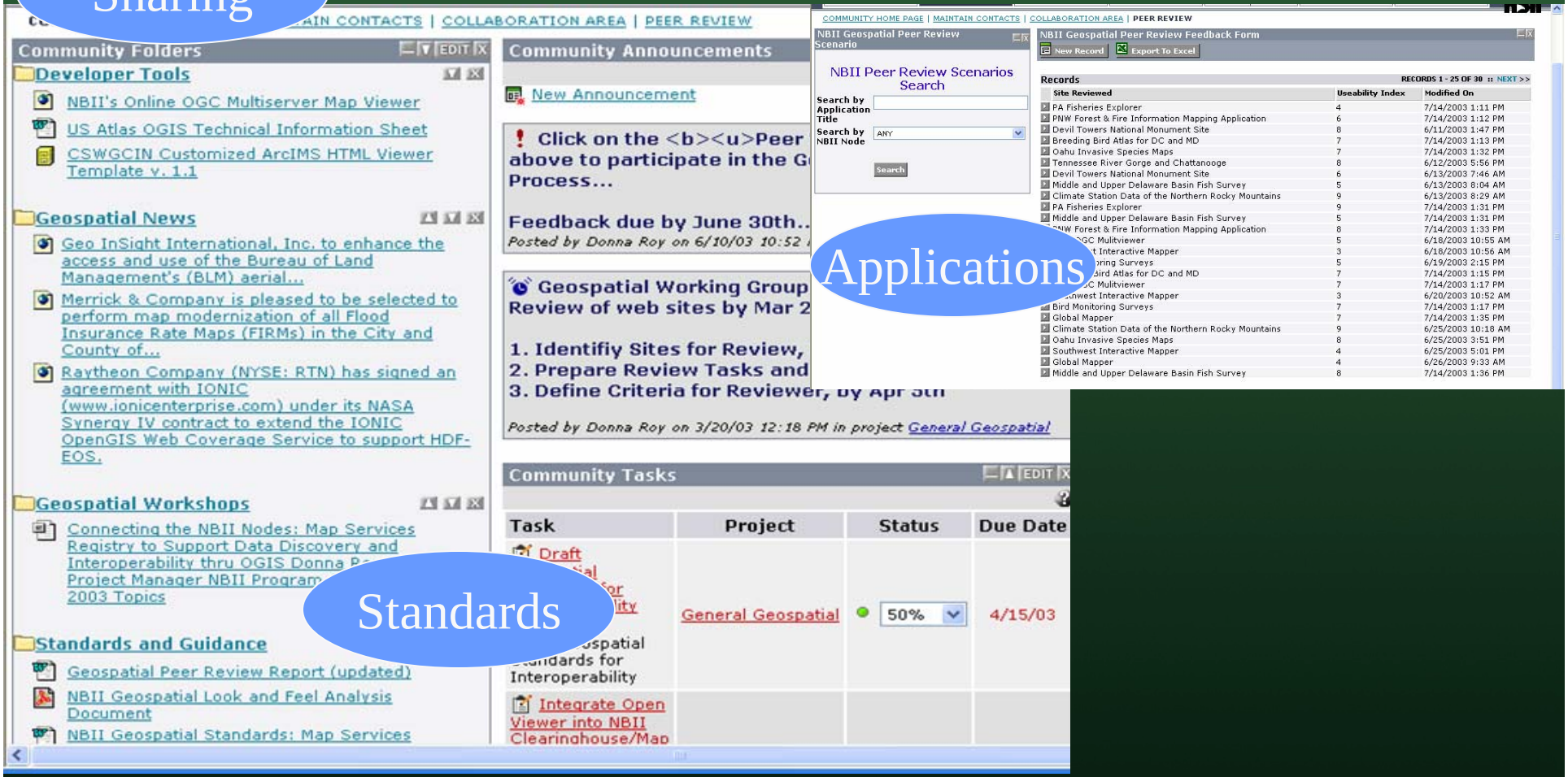
National Biological Information Infrastructure

NBII GIS Activities Summary

Sharing

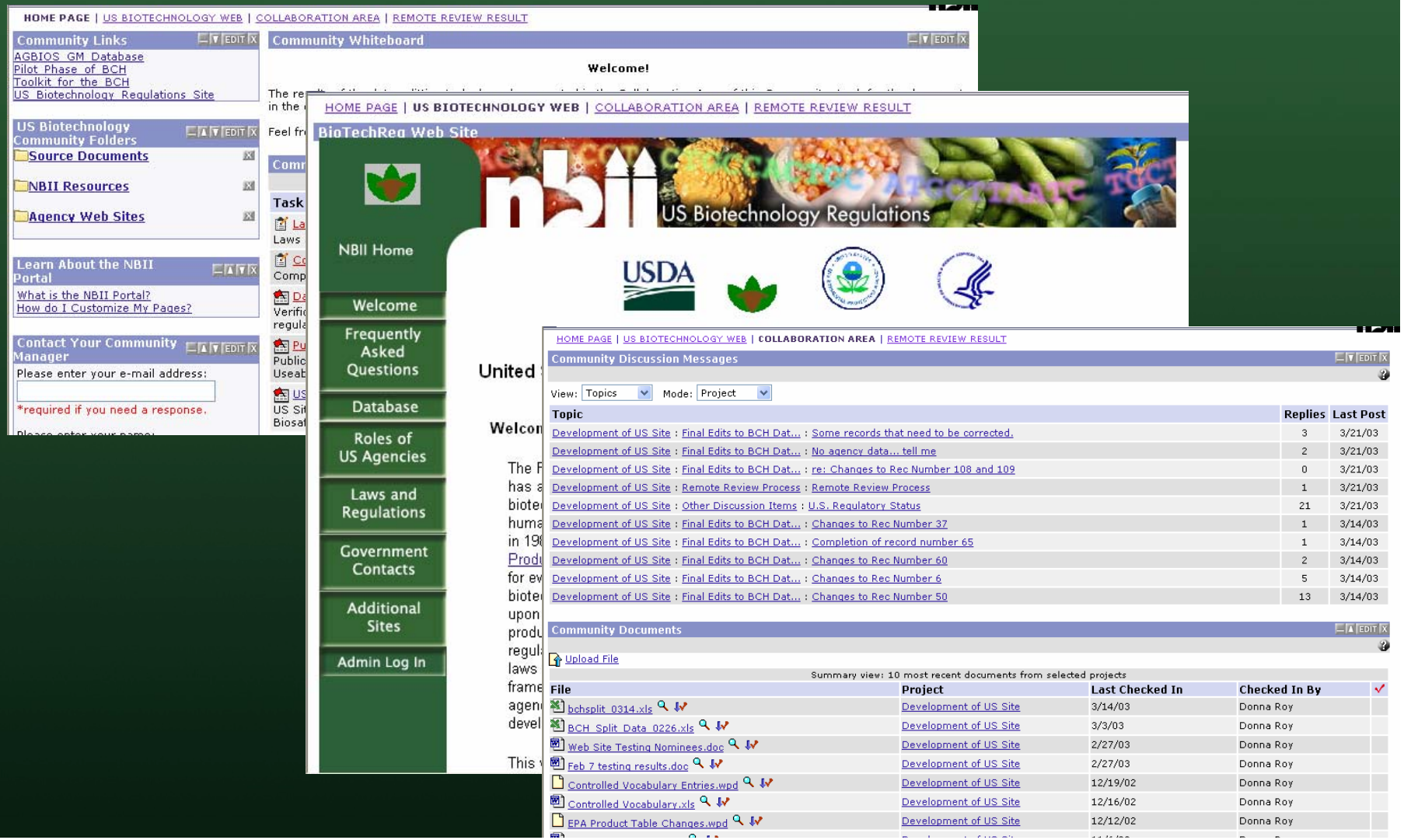
Applications

Standards



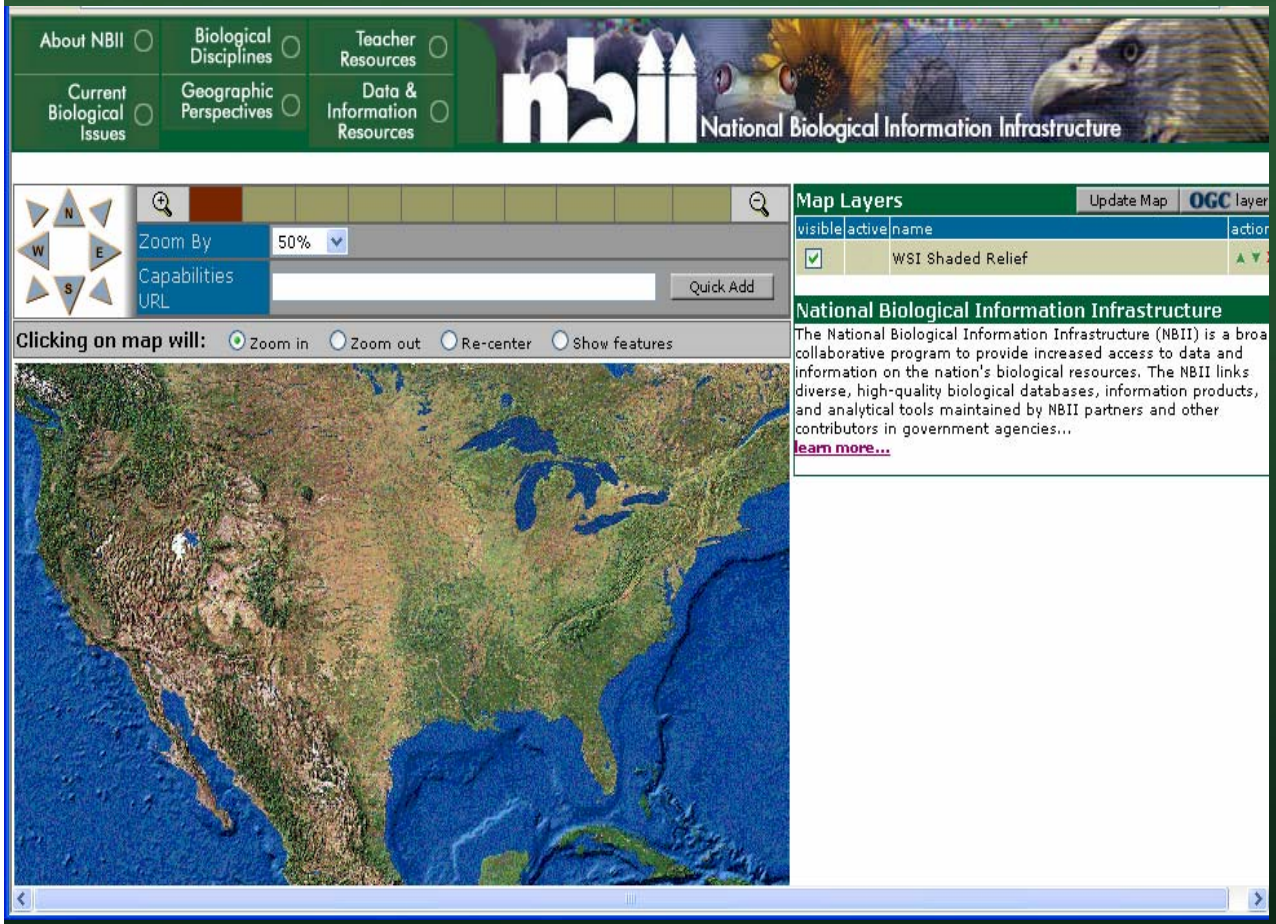
National Biological Information Infrastructure

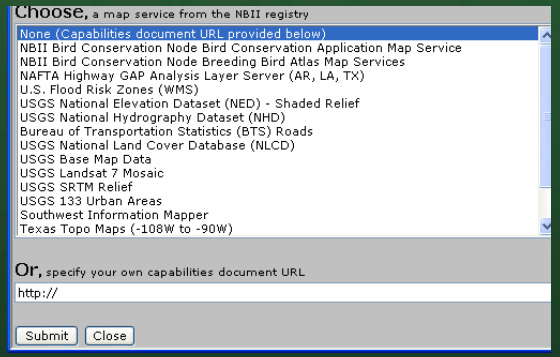
My.nbii.gov Community - BioSafety



National Biological Information Infrastructure

NBII Open Mapping Application

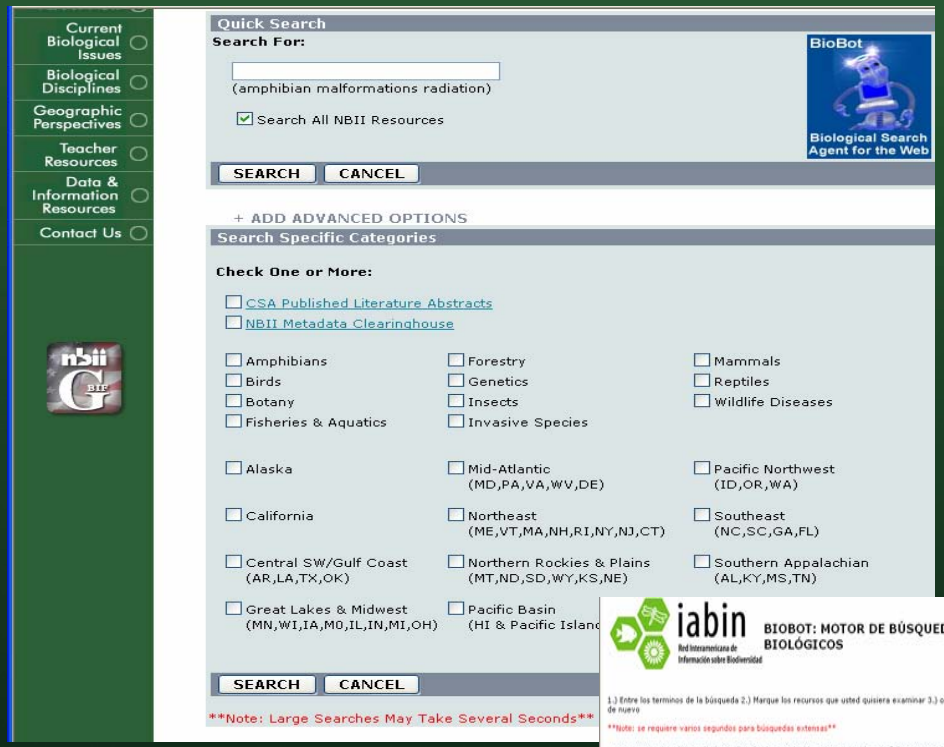


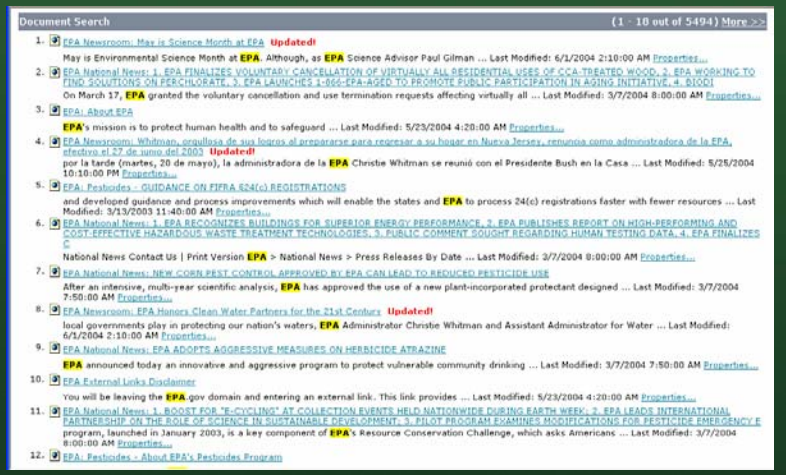


http://mercdev.ornl.gov/mapviewer/

National Biological Information Infrastructure

Integrated Searching - BioBot search





Efforts in the next 6 months…

- Implementation of Public Portal
- Full Implementation of Web Resources Standards
- Connecting Map Services Registry to Geospatial One Stop
- Development or discovery of web services for use within the Nodes such as Gazetteer, Address Finder, or others
- Development of simple data capture for reporting of events such as “I found a deformed frog in my back yard”. (Simple species reporting toolkit)
- Ongoing peer (working group) review of current and new applications (GIS, Databases, etc).
- Regular semi annual geospatial and information technology workshops (June/Oct)
- Collaboration through my.NBII.gov communities
- Expansion of museum records (+2 million)
- Expanding partnerships for content creation
- Expansion of WDC data holdings

Potential Collaborative Opportunities

- Continue support related to Ecoinformatics activities
- Interagency Biodiversity & Ecosystems Workshop
- Metadata integration, tools sharing, standards support
- GIS & Mapping activities
- Collaboration with NBII Fisheries & Aquatic Resources Node
- World Data Center opportunities – data distribution, Modeling

Questions….

Reference urls…

My.NBII.Gov Portal:
http://My.NBII.Gov

To Download the MyNBII Portal Toolbar:
http://www.athoc.com/wis/activate/default.asp?pid=1056591

Plumtree & NBII Partnership:
http://www.plumtree.com/Customers/industries/public_sector/nbii.htm

NBII-AtHoc User Case Study:
http://www.athoc.com/site/pdf/AtHocCaseStudyNBII.pdf

Federal Computer Week articles:

Power to the Portals:
http://www.fcw.com/fcw/articles/2002/0325/tec-port-03-25-02.asp

Build a meeting of the minds online
http://www.fcw.com/supplements/dwkm/2002/sup-meet-08-05-02.asp

Community Investment
http://www.fcw.com/supplements/dwkm/2002/sup-meet2-08-05-02.asp

Government Computer News:

Geological survey tunes XML tags to keep data on key

http://www.gcn.com

Online Demo Geospatial Applications

NBII Map Services Registry Search FGDC clearinghouse
http://mercdev.ornl.gov/nbii/

NBII OGC Multi-server Map Viewer
http://mercdev.ornl.gov/mapviewer/

NBII Customized Application
http://saicmapserver.saic.com/website/wmsviewer

Other URLs:
Registry XML
http://mercury.ornl.gov/scripts/wmsregistry.pl

Single Map Registry Entry XML
http://www-eosdis.ornl.gov/data/bluangel_harvest/NBIIWMS/lgrahamtx/wmsreg/nbii_avianogc.xml

National Biological Information Infrastructure

Mike_Frame@usgs.gov

(703) 648-4164

Reston, VA